

IN THE DRAWINGS

The attached sheets of drawings include changes to Figs. 1-6. These sheets, which include Figs. 1-6, replace the original sheets including Figs. 1-6.

Attachment: Replacement Sheets

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1 and 3-14 are pending, with Claims 1, 6, 9 and 13-14 amended and Claim 2 cancelled by the present amendment.

In the Official Action, the drawings were objected to; the Abstract was objected to; Claims 1-14 were rejected under 35 U.S.C. §101; and Claims 1-5 and 13 were rejected under 35 U.S.C. §103(a) as being unpatentable over Frankel (U.S. Patent 6,070,151) in view of Galperin et al. (U.S. Patent 6,185,543, hereinafter Galperin).

Claims 1, 6, 9 and 13-14 are amended to address the Examiner's concerns regarding with 35 U.S.C. §101. Applicants believe the unamended claims are proper under 35 U.S.C. §101 and have made the relevant amendments for reasons of expediency, not patentability, in order to more rapidly advance prosecution of this application to issuance. No new matter is added.

Frankel describes a system for creating and managing securities that evaluates the cash flows of underlying securities collateralized by mortgage obligations (the "collateral") that are to be restructured into new securities. The underlying securities to be restructured can be either mortgage securities that qualify as collateral for a CMO/REMIC or securities that were issued by an existing CMO/REMIC. The system determines the cash flows based on the Original Term of the underlying securities, as well as the Remaining Term and Loan Age, Gross Coupon, Net Coupon, Settlement Date, Issue Date, Payment Dates, Present Value, and various other mortgage loan characteristics.¹

The system of Frankel measures the present value of the underlying securities interest and principle cash flows under varying circumstances and uses user-provided inputs to

¹ Frankel, column 3, lines 41-53.

allocate the cash flows to the structured securities.² Frankel describes that the new structured securities (REMICs) are created with two tiers of underlying mortgage-related securities.³ The first tier consists of variable rate underlying securities and the second tier consists of two interest-only securities (each an “IO”) and two principle-only securities (each a “PO”), or combinations of these IOs and POs, backed by the variable rate, first-tier securities.⁴ Assuming that the variable rate, first tier securities accrue interest at different levels of an index, the system of Frankel allocates the principle and interest of the variable rate first tier collateral securities among interest only and principle only second tier, structured securities so as to maximize the present value of the cash flows.⁵

As acknowledged by the Official Action, Frankel does not disclose or suggest Applicants’ claimed step of identifying the total MBS production of said plurality of agencies during said pre-determined prior time period, and eliminating from said set of MBS coupons any coupon which does not represent more than a pre-determined level of the total MBS production during said pre-determined prior time period. To cure this deficiency, the Official Action applies Galperin.

Galperin describes a process where loan information 56 is fed into a prepayment model library database 66. The prepayment model library database 66 comprises information concerning prepayment historical data 62. The results are fed into model training server 64 which processes prepayment historical data 62 of both an individual and demographic groups which in turn provides updates to the prepayment model library database 66. Once loan information 58 is processed by the prepayment model library database 66 an analytical prepayment model 60, which is based upon the loan information 58 is provided to the prepayment calculation server 46. Prepayment calculation server 46 receives additional

² Frankel, column 3, line 65 through column 4, line 12.

³ Frankel, column 4, lines 27-48.

⁴ Frankel, column 5, line 64 through column 10, line 32.

⁵ Frankel, column 3, line 54 through column 4, line 16.

information from econometric model 48 which establishes the relationship among the wide variety of variables. Econometric model 48 generates interest rate, mortgage rate and other economic parameters that, arrayed in time series, comprise scenarios utilized by the prepayment calculations server. These scenarios are generated from the Low Discrepancy Sequence (LDS) logic, rather than using random number generation. The LDS logic affords significantly higher model accuracy with the same number of scenarios.⁶

Applicants submit that cited portion(s) of Galperin do not cure the deficiencies of Frankel. The Official Action hypothesizes that with the system of Galperin, only those customers who can be shown to score favorably for prepayment behavior might receive a solicitation for a mortgage product. Assuming *arguendo* that this hypothesis is true relative to Galperin, neither the explicit teachings of Galperin nor the hypothesis forwarded in the Official Action identifying the total MBS production of said plurality *of agencies* during said pre-determined prior time period, and eliminating from said set of MBS coupons any coupon which does not represent more than a pre-determined level of the total MBS production during said pre-determined prior time period. There is no elimination of coupons from a set of MBS coupons in Galperin, let alone Applicants' claimed elimination.

Furthermore, Applicants traverse the characterization of Frankel in the Official Action. Contrary to the Official Action, column 5, lines 18-32 do not describe identifying a set of mortgage-backed securities (MBS) coupons *issued by a plurality of agencies* for a pre-determined prior time period. This portion of Frankel only describes a computer system used for performing the calculations later described in Frankel. Nowhere in Frankel is multi-agency coupon processing described. Similarly, Frankel does not describe identifying the total MBS production *of said plurality of agencies* during said pre-determined prior time period. In fact, while Frankel discloses a variety of calculations, Frankel does not disclose or

⁶ Galperin, column 6, lines 40-60.

suggest identifying the total MBS production of a single agency during said pre-determined prior time period.

Contrary to the Official Action, column 3, lines 40-64, Frankel does not disclose or suggest calculating a *par-adjusted average* coupon price (AACP) for said set of MBS coupons issued by one agency, let alone Applicants' claimed plurality of agencies. As noted above, this portion of Frankel discloses determining cash flows based on the Original Term of the underlying securities, as well as the Remaining Term and Loan Age, *Gross* Coupon, *Net* Coupon, Settlement Date, Issue Date, Payment Dates, Present Value, and various other mortgage loan characteristics, but does not disclose or suggest a *par-adjusted average* coupon price (AACP).

Contrary to the Official Action, column 7, line 1 – column 8, line 20 of Frankel does not disclose or suggest selecting a subset containing N of said set of MBS coupons that is closest to said AACP. This lengthy portion of Frankel describes how an index rate is selected, as well as how principal and interest derived from the underlying securities is distributed among four newly formed securities. Nowhere in this exposition is any sort of coupon selection described, let alone Applicants' claimed selecting a subset containing N of said set of MBS coupons that is closest to said AACP.

Contrary to the Official Action, column 14, line 55 – column 15, line 6 of Frankel does not disclose or suggest assigning a numerical weight to each of said N coupons in said subset. This passage of Frankel defines the term $CPC_A(r)$ as being the weighted average of coupon rates of bonds minus a fixed percentage. Nowhere in Frankel are these coupons in turn assigned a numerical weight. That is, some of the parameters used to create the $CPC_A(r)$ are weighted, but the actual $CPC_A(r)$ is never weighted as compared to other $CPC_A(r)$.

At least in view of the previously identified deficiencies, contrary to the Official Action, column 18, lines 30-67 and column 14, line 55 – column 15, line 6 of Frankel does

not disclose or suggest including in the CMPI mortgage futures contract each of said *N* coupons in said subset and their corresponding numerical weights.

MPEP §706.02(j) notes that to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Also, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on Applicants' disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir.1991). Without addressing the first two prongs of the test of obviousness, Applicants submit that the Official Action does not present a *prima facie* case of obviousness because both Frankel and Galperin fail to disclose all the features of Applicants' claimed invention.

Accordingly, in view of the present amendment and in light of the previous discussion, Applicants respectfully submit that the present application is in condition for allowance and respectfully request an early and favorable action to that effect.

Respectfully submitted,

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